

Virginia Administrative Code

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CHAPTER 31

RECLAMATION REGULATIONS FOR MINERAL MINING

Part I

General Provisions

4VAC25-31-10. Definitions.

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"Acre-foot" means a unit of volume equal to 43,560 cubic feet or 325,853 gallons. One acre-foot of water is equivalent to one acre covered by water one foot deep.

"Berm" means a stable ridge of material used in reclamation for the control of sound and surface water, safety, aesthetics, or such other purpose as may be applicable.

"Critical areas" mean problem areas such as those with steep slopes, easily erodible material, hostile growing conditions, concentration of drainage or other situations where revegetation or stabilization will be potentially difficult.

"Department" means the Department of Mines, Minerals and Energy.

"Director" means the Director of the Department of Mines, Minerals and Energy or his designee.

"Division" means the Division of Mineral Mining.

"Fifty-year storm" means the storm magnitude expected to be equaled or exceeded on the average of once in 50 years. It may also be expressed as a probability that there is a 2.0% chance that the storm magnitude may be equaled or exceeded in any given year.

"Intermittent stream" means a stream or part of a stream that flows for at least one month of the calendar year as a result of ground water discharge or surface run-off.

"Internal service roads" mean roads that are to be used for internal movement of raw materials, soil, overburden, finished, or in-process materials within the permitted area, some of which may be temporary.

"Natural drainageway" means any natural or existing channel, stream bed, or watercourse that carries surface or ground water.

"One hundred-year storm" means the storm magnitude expected to be equaled or exceeded on the

average of once in 100 years. It may also be expressed as a probability that there is a 1.0% chance that the storm magnitude may be equaled or exceeded in any given year.

"Perennial stream" means a stream or part of a stream that flows continuously during all of the calendar year as a result of ground water discharge or surface run-off.

"Permitted area" means the area within the defined boundary shown on the application map including all disturbed land area, and areas used for access roads and other mining-related activities.

"Principal access roads" mean roads that are well-defined roads leading from scales, sales offices, or loading points to a public road.

"Probable maximum flood (PMF)" means the flood that might be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region. The PMF is derived from the current probable maximum precipitation available from the National Weather Service, National Oceanic and Atmospheric Association. In some cases local topography or meteorological conditions will cause changes from the generalized PMP values; therefore, it is advisable to contact local, state, or federal agencies to obtain the prevailing practice in specific cases.

"Qualified person" means a person who is suited by training or experience for a given purpose or task.

"Regrade" or "grade" means to change the contour of any surface.

"Sediment" means undissolved organic or inorganic material transported or deposited by water.

"Sediment basin" means a basin created by the construction of a barrier, embankment, or dam across a drainageway or by excavation for the purpose of removing sediment from the water.

"Spillway design flood (SDF)" means the largest flood that needs be considered in the evaluation of the performance for a given project. The impounding structure shall perform so as to safely pass the appropriate SDF. Where a range of SDF is indicated, the magnitude that most closely relates to the involved risk should be selected.

"Stabilize" means any method used to prevent movement of soil, spoil piles, or areas of disturbed earth. This includes increasing bearing capacity, increasing shear strength, draining, compacting, rip-rapping, vegetating or other approved method.

"Ten-year storm" means the storm magnitude expected to be equaled or exceeded on the average of once in 10 years. It may also be expressed as a probability that there is a 10% chance that the storm magnitude may be equaled or exceeded in any given year. A 10-year 24-hour storm occurs when the total 10-year storm rainfall amount occurs in a 24-hour period.

"Top soil" means the surface layer and its underlying materials that have properties capable of producing and sustaining vegetation.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-20. Scope.

This chapter establishes general and specific rules for mining permits, bonds, operations and reclamation procedures, roads, revegetation, and other matters related to mineral mining.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-30. Compliance.

The permittee shall comply fully with the requirements of Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia and this regulation and shall further ensure compliance by all employees, contractors, or other persons performing mining or reclamation activities.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-40. Modifications.

The division may approve modifications or amendments to any drainage, reclamation and operation plan required under Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia and provisions of these regulations. All modifications or amendments shall be valid only when approved in writing.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-50. Mineral Mine Operator's Manual.

The Mineral Mine Operator's Manual is a nonregulatory guidance document to assist operators in complying with Title 45.1 of the Code of Virginia. The manual may be obtained from the division.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-60. Other governmental agencies and laws.

Any mineral mining permit issued shall not supersede or otherwise affect or prevent the enforcement of other laws and regulations of federal, state, or local governments.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-70. Exemptions.

A. These regulations shall not apply to:

1. Excavation or grading when conducted solely to aid on-site farming or construction;
2. Mining of coal, unless the coal is mined incidental to the mining of minerals;
3. Searching, prospecting, exploring or investigating for minerals by drilling; and
4. Excavation or grading when conducted by an agency or governmental unit of the Commonwealth, local government, or the federal government using government employees.

B. The surface extraction of minerals shall not constitute mineral mining unless:

1. The mineral is extracted for its unique or intrinsic characteristics or;
2. The mineral requires processing prior to its intended use.

C. When considering whether an operation is exempt, the director shall consider the length of time or duration of the activity, whether it is a one-time activity, and whether all necessary permits and approvals are in place before the activity begins.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

Part II

Permit Standards

Article 1

Permits

4VAC25-31-80. Contiguous area.

Contiguous areas mined by a single operator shall be covered under one permit; however, the director may, at his discretion, combine noncontiguous areas into a single permit where such areas are close to each other and are part of the same operation.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-90. Operator conference with inspector.

Prior to approval of a permit application, all maps and plans shall be reviewed at the proposed mining site with the inspector.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-100. Mineral mining permits.

Permits shall be renewed annually to continue to remain in effect.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-110. Permit application.

Application for a mineral mining permit shall be made in writing on a form prescribed by the director and shall be signed and sworn to by the applicant or his duly sworn representative. Two copies of the application shall be submitted to the division.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-120. Permit fee and bond.

A. The following permit fees shall be submitted upon receipt of a billing notice from the director and before the permit is issued:

1. A fee of \$31 per acre for the total permitted acres shall be submitted for the initial permit application.
2. A fee of \$16 per acre for the land permitted by the total operation shall be paid to transfer the permit when one operator succeeds another on an uncompleted operation.

B. All fees shall be in the form of cash, check, money order, or other form of payment acceptable to the director.

C. A bond is required as set forth in Part III of this regulation. Bonding shall be provided once the permit application is deemed complete.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-130. Mineral mining plans.

Mineral mining plans shall be attached to the application and consist of the following:

1. The reclamation plan shall include a statement of the planned land use to which the disturbed land will be returned through reclamation, the proposed actions to assure suitable reclamation, and a time schedule for reclamation. The method of grading, removal of metal, lumber, and debris,

including processing equipment, buildings, and other equipment relative to the mining operation and revegetation of the disturbed area shall be specified.

2. The operation plan shall include a description of the proposed method of mining and processing; the location of top soil storage areas; overburden, refuse and waste disposal areas; stockpiles, equipment storage, and maintenance areas; cut and fill slopes; and roadways. The operation plan shall also include all related design and construction data. The method of operation shall provide for the conducting of reclamation simultaneously where practicable with the mining operation. For the impoundments that meet the criteria of § 45.1-225.1 A of the Code of Virginia, plans shall be provided as required under 4VAC-25-31-180 and 4VAC25-31-500.

3. The drainage plan shall consist of a description of the drainage system to be constructed before, during and after mining, a map or overlay showing the natural drainage system, and all sediment and drainage control structures to be installed along with all related design and construction data.

4. Adequate maps, plans and cross sections, and construction specifications shall be submitted to demonstrate compliance with the performance standards of Part IV (4VAC25-31-330 et seq.) of this chapter and Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia. Designs, unless otherwise specified, shall be prepared by a qualified person, using accepted engineering design standards and specifications.

5. A copy of the Virginia Department of Transportation land use permit for roads that connect to public roads.

6. If mining below the water table is to take place, the following conditions apply:

- a. The application shall contain an assessment of the potential for impact on the overall hydrologic balance from the proposed operations to be conducted within the permitted area.
- b. A plan for the minimization of adverse affects on water quality or quantity shall be prepared based on the assessment in subdivision 6a of this section and included in the application.
- c. In no case shall lakes or ponds be created if they are less than four feet deep, except when creation of wetlands is approved as part of the post-mining land use.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-140. Marking of permit boundaries.

A. The permit boundary of the mine shall be clearly marked with identifiable markings when mine related land disturbing activities are within 100 feet of the permit boundary.

B. This section is not applicable to lands disturbed prior to the effective date of this regulation.

C. Maintenance of permit boundary markers is not required after completion of construction, completion of final disturbances, or completion of final reclamation unless the area is being redisturbed by mining.

D. Separate boundary markings are not required if clear, readily identifiable features, such as streams, permanent roads, or permanent power lines coincide with the permit boundary.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-150. Maps.

A. Maps shall be supplied as described in §§ 45.1-181 and 45.1-182.1 of the Code of Virginia and in this chapter that show the total area to be permitted and the area to be affected in the next ensuing year (with acreage calculated).

B. Preparation of maps.

1. All application, renewal, and completion maps shall be prepared and certified under the direction of a professional engineer, licensed land surveyor, licensed geologist, issued by a standard mapping service, or prepared in such a manner as to be acceptable to the director.

2. If maps are not prepared by the applicant, the certification of the maps shall read as follows: "I, the undersigned, hereby certify that this map is correct and shows to the best of my knowledge and belief, all the information required by the mineral mining laws and regulations of the DMME."

3. The applicant shall submit a general location map showing the location of the mine, such as a county highway map or equivalent, in the initial application.

4. Sensitive features within 1,000 feet of the permit boundary such as cemeteries, oil and gas wells, underground mine workings, streams, creeks and other bodies of public water, public utilities and utility lines, public buildings, public roads, churches, and occupied dwellings shall be shown.

C. Map code and legend.

1. A color code as prescribed by the director shall be used in preparing the map.
2. Graphic symbols may be used to represent the different areas instead of a color-coded map.
3. The map shall include a legend that shows the graphic symbol or color code and the acreage for each of the different areas.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-160. Legal right.

A. A statement of the source of the legal right of the applicant to enter and conduct operations on the land proposed to be covered by the permit as noted in § 45.1-181 of the Code of Virginia shall be submitted to the division. In addition, the applicant shall submit proof of right of entry, which shall consist of a copy of the lease or deed, or names of parties to the lease or deed, date of execution, and recording information.

B. On the permit application, the applicant shall disclose any type of mining permit, revocations, security deposited in lieu of bond that has been revoked or forfeited, and bond forfeitures in Virginia or any other state with which he or any individual, corporation, trust, partnership, association, or other legal entity with which he has or has had control or common control.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-170. Permit notifications.

A. The following shall be made with a new permit application:

1. Notification to property owners within 1,000 feet of the permit boundary by certified mail. A record shall be kept of:
 - a. The names and addresses of those notified, and
 - b. The certified mail return receipts used for the notification.

2. A statement as required by § 45.1-184.1 of the Code of Virginia to property owners that requires land owners within 1,000 feet of the permit boundary to be notified that the operator is seeking a surface mining and reclamation permit from the Department of Mines, Minerals and Energy. The statement shall also include:

- a. Company name;
- b. Date;
- c. Location;
- d. Distance and direction of nearest town or other easily identified landmark;
- e. City or county;
- f. Tax map identification number; and
- g. Requirements for (i) regrading; (ii) revegetation; and (iii) erosion controls of mineral mine sites.
- h. A notice that informs property owners that they have 10 days from receipt of the permit notification to specify written objections or request a hearing. This request shall be in writing and shall be sent to the Department of Mines, Minerals and Energy, Division of Mineral Mining, P.O. Box 3727, Charlottesville, Virginia 22903, (434) 951-6310.

B. A statement, with certified mail receipt, certifying that the chief administrative official of the local political subdivision has been notified.

C. Notification to any utilities on or within 500 feet of the permitted area. The notification shall consist of the following:

1. The name of the party issuing the notice;
2. The applicant name, address, and phone number; and
3. The name and address of the party receiving the notice and the information noted in subdivision A 2 of this section.

D. No permit will be issued until at least 15 days after receipt of the application by the division. If all persons required to receive notice have issued a statement of no objection, the permit may be issued in less than 15 days.

E. Copies of all permit notifications and statements required in subsections A through C of this section shall be supplied to the department with the application.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-180. Impoundments.

The design data and construction plans and specifications for impoundments meeting the criteria set forth in Chapter 18.1 (§ 45.1-225.1 et seq.) of Title 45.1 of the Code of Virginia shall be submitted to the director prior to initiation of construction activities. Such a plan shall be certified as prepared by, or under the supervision of, a registered professional engineer and shall include:

1. Design and construction specifications;
2. Examination and monitoring;
3. Emergency procedures; and
4. Closure and abandonment plans.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-190. Availability of permits.

Mineral mining permits and a copy of the permit application shall be kept on-site while mining is underway.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-200. Exemption for restricted mining.

Any operator engaging in mining and disturbing less than a total of one acre of land and removing less than a total of 500 tons of minerals, is exempt from all mining permit fees, renewal fees and bonding requirements in this chapter. The mining operator shall submit an application for a permit, a sketch of the mining site, and an operations plan, which shall be adhered to in accordance with §§ 45.1-181 and 45.1-

182.1 of the Code of Virginia.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

Article 2

Permit Renewal and Surety Adjustments

4VAC25-31-210. Annual renewal.

A. If a permitted mineral mine operator wishes to continue operations, the mineral mining permit shall be renewed each year within 10 days of the anniversary date. If the time requirements set forth herein are not met, the permit shall expire 10 days following the anniversary date.

B. A renewal fee in the amount of \$16 per acre for previous acres disturbed plus estimated additional acres to be disturbed in the next 12 months shall accompany the permit renewal submitted to the director.

C. The permit renewal shall be submitted on a form prescribed by the director. The renewal shall be signed by the applicant or his legal representative. The permit renewal and maps must be received by the anniversary date and meet the requirements in 4VAC25-31-100 through 4VAC25-31-220.

D. If in a given year there are no changes to the map required in 4VAC25-31-150, the operator may submit a certification instead of the map for the year. The certification shall read as follows: "I, the undersigned, hereby certify that no changes have been made in the different areas or in other map features since the last annual permit renewal or modification."

E. If at renewal time, bond or other surety is less than the required coverage, the director will notify the operator in writing of the amount required. The operator shall submit the required bond according to the requirements in 4VAC25-31-220 through 4VAC25-31-270 before the area is disturbed.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

Part III

Bonding

4VAC25-31-220. Requirements for bonding of mineral mines.

A. Once the permit application is deemed complete, the applicant shall submit a bond or bonds on a form meeting the requirements in 4VAC25-31-220 through 4VAC25-31-270, made payable to the department and conditioned upon the satisfactory performance of all the requirements of this chapter, the approved permit, and Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia, including completion of the reclamation plan so that the land will be capable of supporting the approved post-mining land use.

B. The bond or bonds shall cover the entire area presently disturbed by mining plus the estimated number of acres to be disturbed in the upcoming year.

C. As additional areas outside the bonded acreage are to be disturbed to facilitate the mining operation, the permittee shall file a bond or bonds to cover the acreage with the division.

D. Bond shall be posted and accepted by the division prior to disturbing an area for mining-related activity.

E. Permitted operators shall certify annually with the permit renewal the type, current insurer or bank, and the amount of all reclamation bonds.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-230. Period of liability.

A. The bond liability shall be for the duration of the mineral mining operation and for the period following reclamation, which is necessary to demonstrate the success of the final reclamation.

B. In lieu of the requirements of 4VAC25-31-240 through 4VAC25-31-270, a permittee accruing five years of satisfactory operation under Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia shall be required to enter the Minerals Reclamation Fund as established in Article 4 (§ 45.1-197.8 et seq.) of Chapter 16 of Title 45.1 of the Code of Virginia and 4VAC25-31-320. All performance bonds will be released upon acceptance in the Minerals Reclamation Fund and payment of required fees.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-240. Bond amount.

A. The amount of bond shall be \$1,000 per acre of disturbed land.

B. The minimum bond for a mineral mining permit shall be \$1,000, except for restricted permits and Minerals Reclamation Fund participants.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-250. General terms and conditions of bond.

A. The bond shall be of the form and amount as specified by the division.

B. The performance bond shall be payable to the department.

C. The performance bond shall be conditioned upon satisfactory performance of all the requirements of this chapter, the approved permit, and Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia, including completion of the reclamation plan so that the land will be capable of supporting the approved post-mining land use.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-260. Form of performance bond.

The bond shall be submitted in the form of cash, check, certificate of deposit, or insurance surety bond.

A. Certificates of deposit.

1. Certificates of deposit must be made payable to the Treasurer of Virginia, Division of Mineral Mining.

2. The amount of the certificate of deposit must include the maximum early withdrawal penalty rounded up to the next higher hundred dollars.

3. The original certificate of deposit shall be submitted to the division and held by the division throughout the bond liability period.
4. Certificates of deposit must be automatically renewable.
5. The certificate of deposit must be from a bank located in the Commonwealth of Virginia or approved as an allowable bank depository by the Virginia Department of Treasury.
6. Interest accrued on certificates of deposit may be deposited to the permittee's individual account and is free of encumbrance by bond liability.
7. In the event of forfeiture of a certificate of deposit, the face value of the deposit plus any accrued interest that has been rolled back into the certificate principal will be subject to bond liability and expenditure in the performance of the reclamation obligation.

B. Surety bonds.

1. All bonds shall be acceptable by the director. Bonds shall be executed by the permittee, and a corporate surety and agent licensed to do business in the Commonwealth.
2. Surety bonds shall not be canceled during their term except that surety bond coverage for lands not disturbed may be canceled with the prior consent of the division. The division shall advise the surety, within 30 days after receipt of a notice to cancel bond, whether the bond may be canceled on an undisturbed area.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-270. Replacement of bonds.

A. The division may allow a permittee to replace existing bonds with other bonds that provide equivalent coverage.

B. The division shall not release existing performance bonds until the permittee has submitted and the division has approved acceptable replacement performance bonds. Replacement of a performance bond pursuant to this section shall not constitute a release of bond.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-280. Release of bond.

The division may release all or part of the bond for the entire permit area or a portion of the permit area if the division is satisfied that all reclamation covered by the bond or portion thereof has been accomplished in accordance with this chapter, the approved permit, and Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia, including completion of the reclamation plan so that the land will be capable of supporting the approved post-mining land use.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-290. Intensive agricultural use.

If the post-mining use is to be intensive agriculture, then planting and harvesting of a normal crop yield is required to meet the regulatory requirements for full or partial bond release. A normal yield for a particular crop is equal to the five-year average for the county. The use of grass, water bars, or diversion strips and natural vegetative drainage control may be required in the initial planting year as specified by the director.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-300. Inspections for adequacy of vegetation and bond release.

A. Final inspection for bond release shall be made no sooner than two growing seasons after the last seeding.

B. Final inspection for bond release shall require:

1. No noncritical areas larger than one-half acre shall be allowed to exist with less than 75% ground cover. Vegetation shall exhibit growth characteristics for long-term survival.
2. Seeded portions of critical areas shall have adequate vegetative cover so the area is completely

stabilized.

3. Bond release inspections for industrial, residential, or commercial post-mining use shall ensure that:

- a. All areas not redisturbed by implementation of the post-mining use are reclaimed and satisfactorily stabilized.
- b. All areas associated with construction of buildings or residential dwellings for post-mining use are covered by appropriate plans approved by the local governing body, i.e., erosion and sediment control plans, building permits, and development plans.
- c. All areas not covered by such approved local government plans shall be reclaimed and stabilized in accordance with subdivisions 1 and 2 of this subsection prior to release of bond.

4. Bond release inspections for other post-mining uses will ensure that all areas not directly used by the post-mining use are stabilized in accordance with subdivisions 1 and 2 of this subsection and that the post-mining use is implemented.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-310. Bond forfeiture.

A. If the permittee refuses or is unable to comply with an order by the director under § 45.1-186.1 of the Code of Virginia, fails to comply with the terms of the permit, or defaults on the conditions under which the bond was accepted, the division shall take the following action to revoke the permit and forfeit the bond or bonds for the permit area or a portion of the permit area:

1. Send written notification by certified mail, return receipt requested, to the permittee and the surety on the bond informing them of the decision to revoke the permit and forfeit all or part of the bond, and the reasons for this action.
2. Advise the permittee and surety of the conditions under which forfeiture may be avoided. Such conditions may include:
 - a. Agreement by the permittee or another party to perform reclamation operations in accordance with a compliance schedule acceptable to the division, which meets the conditions of the permit and the reclamation plan, and demonstrates that such party has the ability to

satisfy the conditions; or

b. The division may allow a surety to complete the reclamation plan if the surety can demonstrate an ability to complete the reclamation in accordance with the approved reclamation plan. Except where the division may approve partial release, no surety liability shall be released until successful completion of all reclamation under the terms of the permit.

B. In the event forfeiture of the bond is required, the division shall:

1. Proceed to collect the forfeited amount as provided by Virginia law for the collection of defaulted bonds or other debts if actions to avoid forfeiture have not been taken, if any rights of appeal have not been exercised within a time established by the division, or if such appeal is unsuccessful.

2. Use funds collected from bond forfeiture to complete the reclamation plan on the permit area.

C. Upon default the division may cause the forfeiture of any and all bonds deposited to complete reclamation for which the bonds were posted. Bond liability shall extend to the entire permit area under conditions of forfeiture.

D. Reclamation costs in excess of the forfeited bond amount will constitute a debt of the operator to the Commonwealth of Virginia and shall be collected in accordance with § 45.1-186.2 of the Code of Virginia.

E. In the event the amount of performance bond forfeited was more than the amount necessary to complete reclamation, the unused funds shall be returned by the division to the party from whom they were collected.

F. Appeal of bond forfeiture decisions may be made by the operator by providing notice of appeal to the director in accordance with Article 3 (§ 2.2-4018 et seq.) of the Administrative Process Act. If the operator files a notice of appeal, then the director's orders revoking the permit and declaring forfeiture shall be held in abeyance until the appeal is determined.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003; amended, Virginia Register Volume 28, Issue 21, eff. July 18, 2012.

4VAC25-31-320. Minerals Reclamation Fund (MRF).

A. Each operator who has had five years of satisfactory operation in the Commonwealth under

Chapter 16 (§ 45.1-180 et seq.) of Title 45.1 of the Code of Virginia shall become a member of the fund by making an initial payment to the fund of \$50 for each acre currently disturbed and each acre estimated to be affected by mining operations during the next year. Thereafter the member shall make an annual payment of \$12.50 for each acre currently disturbed plus each acre estimated to be affected during the next ensuing year. No annual Minerals Reclamation Fund deposits will be collected from members where the permit Minerals Reclamation Fund deposits divided by the number of bonded acres in the next ensuing year is equal to or greater than \$500.

B. Entry into the Minerals Reclamation Fund shall be mandatory for all eligible permittees.

C. Operator deposits into the Minerals Reclamation Fund shall be released or retained under the following conditions:

1. When the operation and reclamation are complete and the reclaimed area is suitable for bond release, Minerals Reclamation Fund deposits for the reclaimed area shall be returned to the operator.
2. When the mining permit is transferred to another permittee and division approval is granted, Minerals Reclamation Fund deposits for the permit may be returned to the transferring permittee.
3. When a mining permit is completely relinquished to another operator, other than in a permit transfer, all of the Minerals Reclamation Fund deposits for the permit shall be returned to the relinquishing operator upon division approval of the relinquishment.
4. After bond release applications are approved by the division, Minerals Reclamation Fund deposits for the permit shall be held or retained according to the following formulas:

a. If the permit Minerals Reclamation Fund balance divided by the number of acres remaining under bond is equal to or greater than \$500, Minerals Reclamation Fund deposits for the permit will be released so that the remaining deposits equal \$500 per acre for the acres remaining under bond.

Example: 50 acres permitted; 10 acres bonded; 2 acres requested for release; Minerals Reclamation Fund deposits = \$4,000;

Minerals Reclamation Fund balance ÷ remaining bonded acres = \$500;

\$4,000 ÷ (10-2) acres = \$500.

b. If the permit Minerals Reclamation Fund balance divided by the number of acres remaining under bond is less than \$500, the bond release amount will be determined by dividing the

permit Minerals Reclamation Fund deposit by the number of bonded acres including the acres to be released and then multiplying by the number of acres to be released.

Example: 50 acres permitted; 10 acres bonded; 2 acres requested for release; Minerals Reclamation Fund deposits = \$3,000;

Minerals Reclamation Fund balance ÷ total bonded acres = Release amount \$ per acre;

\$3,000 ÷ 10 acres = \$300 per acre;

Release amount = \$300 per acre x 2 acres = \$600.

D. Moneys available in the Minerals Reclamation Fund may be less than the total of all operator deposits due to expenditures for bond forfeiture as required by § 45.1-197.12 of the Code of Virginia. Minerals Reclamation Fund refunds are subject to availability of moneys in the Minerals Reclamation Fund and shall be suspended if the fund decreases below \$250,000. Payments to the fund are then proportionately assessed until the fund returns to a minimum, \$250,000 or bond or other securities are posted as required by the director in accordance with § 45.1-197.14 of the Code of Virginia.

E. Minerals Reclamation Fund deposits will be transferred to the successor operator when a permit transfer occurs due to a change in organization status or restructuring that does not involve a complete change of ownership.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

Part IV

Performance Standards

4VAC25-31-330. Protected structures and sensitive features.

Mining activities shall be conducted in a manner that protects cemeteries, public utilities, public buildings, public roads, churches, and occupied dwellings.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-340. Signs.

A permanent sign shall be installed on the mining site adjacent to the principal access road and shall be visible and legible to access road traffic. The name of the permittee and the permit number shall be on the marker.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-350. Roads.

A. Internal service roads and principal access roads shall be planned to minimize the impact of traffic, dust, and vehicle noise on developed areas outside the mining site.

B. Construction standards.

1. The integrity of drainageways shall be maintained. If natural drainageways are altered or relocated during construction, adjoining landowners shall be protected from damage resulting from construction.
2. Drainage structures shall be required in order to cross a stream channel. Such structures shall be constructed with consideration for surrounding drainage acreage and culvert size, and slope so as not to restrict the flow of the stream, i.e., the bridge or culverts shall be of adequate size to permit stream flow throughout the seasonal periods during the life of the mine permit. Temporary stream crossings for pioneer roads shall be for infrequent use, stable, only used in low flow times, and shall not contribute to sedimentation off-site.
3. Roads shall be located away from streams wherever possible.
4. Road surfaces and ditches shall be stabilized. Side slopes shall be constructed in a stable manner to minimize erosion and sedimentation.
5. Ditches shall be constructed where necessary, with consideration for surrounding drainage acreage and slope and shall have sufficient capacity to control surface run-off.
6. Culverts shall be installed in accordance with the following standards:
 - a. Relief culverts shall be installed at intervals to prevent overloading of ditches.
 - b. Culverts shall be placed on a minimum grade to ensure free drainage and be covered by

compacted fill as specified by the manufacturer.

c. The inlet end shall be protected by a headwall of a suitable material such as a concrete retaining wall, sand bags, rock riprap, or other approved material.

d. The outlet end shall discharge onto an apron of rock riprap or other approved material. Where practical, the outlet end shall be placed below the toe of the fill. At no time should run-off be allowed to flow over an unprotected fill slope.

e. All culverts shall have the capacity to carry storm run-off and shall be properly maintained.

7. Sediment control shall be provided for roads to minimize sediment that leaves the disturbed area.

8. Dust from roads shall be adequately controlled.

9. Roads shall be surfaced and maintained to prevent the depositing of mud and debris on public roads.

10. Roads shall not be surfaced with any acid producing material or any material that will introduce a high concentration of suspended solids into surface drainage.

C. Maintenance is required to ensure the proper functioning of the road and drainage system. Maintenance of the road system shall consist of inspecting, repairing and cleaning of roadways, ditches, and culverts as necessary. Particular attention shall be given to removing debris from culvert inlets.

D. When a road is abandoned, steps shall be taken to minimize erosion and establish the post-mining use in accordance with the reclamation plan.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-360. Operation and reclamation.

A. Mining operations shall be conducted to minimize adverse effects on the environment and facilitate integration of reclamation with mining operations according to the special requirements of individual mineral types. Mining shall be conducted to minimize the acreage that is disturbed and reclamation shall be conducted simultaneously with mining to the extent feasible.

B. Open pit mining of unconsolidated material shall be performed in such a way that extraction and

reclamation are conducted simultaneously.

C. Mining activities shall be conducted so that the impact on water quality and quantity are minimized. Mining below the water table shall be done in accordance with the mining plan under 4VAC25-31-130.

D. In no case shall lakes or ponds of water be created that are less than four feet deep, unless wetlands are formed as part of the approved post-mining land use.

E. Excavation shall be done in such a manner as to keep storm drainage flowing toward sediment control structures. Diversions shall be used to minimize storm run-off over disturbed areas.

F. The mining operation shall be planned to enhance the appearance to the public during mining and to achieve simultaneous and final reclamation.

G. At the completion of mining, all entrances to underground mines shall be closed or secured and the surface area reclaimed in accordance with the mineral mining plan.

H. Reclamation shall be completed to allow the post-mining land use to be implemented. After reclamation, the post mining land use shall be achievable and compatible with surrounding land use. All necessary permits and approvals for the post-mining land use shall be obtained prior to implementation.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-370. Slopes.

A. The grade of completed slopes shall be as described in the mineral mining plan. Long uninterrupted slopes shall be provided with drainage control structures, such as terraces, berms, and waterways, to minimize erosion due to surface run-off.

B. Slopes shall be stabilized, protected with a permanent vegetative or riprap covering, and shall not be eroded.

C. Constructed cut or fill slopes shall not extend closer than 25 feet to any property boundary without the written permission of the adjoining property owner and the approval of the director.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-380. Treatment of acid material.

All acid material, which is part of or directly associated with the mineral deposit or deposits being mined, shall be properly controlled during mining and upon completion of mining shall be covered with a material capable of shielding the acid material and supporting plant cover in accordance with the approved reclamation plan. Unless otherwise specified by the director, the minimum cover shall be four feet in depth.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-390. Handling of spoil piles and stockpiles of minerals.

A. All spoil piles will be graded in accordance with the mineral mining plan in such a manner as to minimize sediment run-off.

B. Stockpiles of minerals shall be removed to ground level and the area shall be scarified and planted in accordance with the approved mineral mining plan. The director shall allow a reasonable time for sale of stockpiles.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-400. Overburden, refuse, spoil and waste fills.

A. Overburden, refuse, spoil and waste disposal fills with the capability to impound water, sediment or slurried tailings, slimes or refuse in a liquid, or semi-liquid state, shall be designed and constructed in accordance with 4VAC25-31-500.

B. Overburden, refuse, spoil and waste disposal fills that do not have the capability to impound water or other liquid or semi-liquid materials, shall meet the requirements of this section.

C. Fills that are not impoundments shall be designed to meet the requirements of this section and use current, prudent engineering practices.

D. The plans and specifications for fills shall consist of an engineering design report that includes engineering calculations, drawings, and specifications. These shall take into account the size, location, and hazard potential of the fill and will include the following as necessary:

1. A site plan showing the location of the structure, associated access, surface and subsurface drainage systems, sediment control structures, and the proposed fill configuration.
2. Cross sections and profiles showing the original ground, proposed fill profile, location of terraces and constructed slopes.
3. Design details for all surface and subsurface drainage control structures.
4. A narrative description of site preparation, foundation evaluation and preparation, materials placement, material handling, and sequencing of construction.
5. A closure and final reclamation plan for the fill and associated structures.

E. Fills shall be constructed, operated, and maintained such that they perform in accordance with their design and purpose throughout the life of the fill.

F. Fills shall be constructed with slopes no steeper than two horizontal to one vertical for predominantly clay soils and no steeper than three horizontal to one vertical for predominantly sandy soils or must exhibit a static safety factor of 1.5 for other steeper slopes.

G. Fills shall be constructed, maintained and inspected to ensure protection of adjacent properties, preservation of public safety, and to provide prompt notice of any potentially hazardous or emergency situation.

H. Fills shall be closed and abandoned in a manner that ensures continued stability and compatibility with the post-mining land use.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-410. Storage of top soil.

A. Top soil required for reclamation shall be stored in such a manner as to remain available for reclamation. Top soil will be needed for future reclamation and shall not be removed from the permitted area unless authorized by the division.

B. The stockpiled top soil shall be seeded with quick growing grasses or legumes for stabilization until used in final reclamation.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-420. Screening.

A. Screening shall be provided for sound absorption and to improve the appearance of the mining site from public roads, public buildings, recreation areas, and occupied dwellings.

B. If screening is to be undisturbed forest, a distance of 100 feet must be left undisturbed within the permit boundary. Less than 100 feet may be approved if the natural vegetation provides the needed screening benefits between the mining operation and the adjacent property. Planted earth berms, natural topography, appropriately designed fences or walls may be used if approved in the mineral mining plan.

C. On permanent berms for screening, the spoils (waste materials) shall be initially placed on the proposed berm area and top soil (where available) shall be spread over the spoil areas, not less than four inches in thickness, and if possible, 12 inches in thickness. The remaining top soil shall be placed in a designated area for future spreading on other areas which need top dressing. The top soil shall be seeded or planted in accordance with the approved reclamation plan.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-430. Completion of active mining.

A. Except as provided in subsection B of this section, a mining operation, where no mineral has been removed or overburden removed or regraded for a period of 12 consecutive months, shall be declared complete and total reclamation shall begin.

B. At the option of the operator and with the director's concurrence, an operation may remain under permit for an indefinite period during which no mineral or overburden is removed if the following conditions are met to the director's satisfaction:

1. All disturbed areas are reclaimed to prevent erosion and sedimentation in accordance with mining plans and proper engineering practices.
2. All drainage structures such as culverts and ditches are constructed and maintained in accordance with mining plans and proper engineering practices.
3. All vegetation is maintained, including reseeded if necessary.
4. All improvements on site, including machinery and equipment, are maintained in a state of good repair and condition.

If the above conditions are not met, the permit may be revoked by the director in accordance with § 45.1-186.1 of the Code of Virginia.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-440. Drainage and sediment control.

All mining operations shall have adequate drainage, erosion, and sediment control measures installed and maintained in accordance with the approved drainage plan or as acceptable to the division. If adequate drainage, erosion, and sediment control measures cannot be provided, the permit for the affected portion or the entire mine may be denied.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-450. Sediment basins.

Drainage from disturbed areas shall be directed into a sediment basin before it is discharged from the permit area. Sediment basins shall be located as close to the disturbed area as possible. Sediment basins shall not be located in perennial streams. Sediment control measures shall be installed prior to land disturbing activities within the drainage area controlled by the sediment basin. Each primary sediment basin shall provide at least 0.125 acre feet of storage capacity for each acre of disturbed land draining to it. Storage basins shall be cleaned as necessary to ensure proper functioning before they

reach 60% capacity. Alternate sediment control measures that are as effective as sediment basins may be approved. The measures may include reduced basin storage capacity for small short-term disturbances, sediment channels, check dams, or mining methods that incorporate sediment control.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-460. Intermittent or perennial streams.

All intermittent or perennial streams shall be protected from spoil by natural or constructed barriers. Stream channel diversions shall safely pass the peak run-off from a 10-year, 24-hour storm. Stream channel diversions shall be at least equal to the capacity of the unmodified stream channel immediately upstream and downstream of the diversion.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-470. Natural drainageways.

Drainageways shall be identified on the map submitted with the application. If it is necessary for the operation to cross or fill such a drainageway, properly engineered drainage structures shall be provided to allow free-flowing drainage and minimize erosion. Where necessary, water-retarding structures shall be placed in drainageways.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-480. Diversions.

Surface water diversions shall be installed as necessary where run-off has the potential for damaging property, causing erosion, contributing to water pollution, flooding or interfering with the establishment of vegetation. Diversions that will be removed in 18 months or less shall convey the peak run-off of a 1-year,

24-hour storm. Diversions that function more than 18 months shall be able to convey the peak run-off of a 10-year, 24-hour storm.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-490. Water quality.

The pH of all water discharge resulting from the mining of minerals shall be between pH 6.0 and pH 9.0.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-500. Water impoundments.

A. Structures that impound water or sediment to a height of five feet or more above the lowest natural ground area within the impoundment and have a storage volume of 50 acre-feet or more, or impound water or sediment to a height of 20 feet or more regardless of storage volume, shall meet the following criteria (noted in Chapter 18.1 (§ 45.1-225.1 et seq.) of Title 45.1 of the Code of Virginia):

1. Impoundments meeting or exceeding the size criteria set forth in this section shall be designed utilizing a spillway flood and hazard potential classification as specified in the following table:

Class of Impoundment*	Hazard Potential if Failure Occurred	Size Classification**		Spillway Design Flood (SDF)***
		Capacity (ac-ft)	Height	
I	Probable loss of life Extensive off-site effect	A) >1000 B) > 500 C) > 50 D) < 50	> 40 ft < 40 ft > 5 ft > 20 ft	PMF 0.5 PMF-PMF 0.5 PMF-PMF 100 yr - 0.5 PMF
II	Probable loss of life Appreciable off-site effects	A) >1000 B) > 500 C) > 50 D) < 50	> 40 ft < 40 ft > 5 ft > 20 ft	0.5 PMF-PMF 100 yr - 0.5 PMF 100 yr - 0.5 PMF 100 yr
III	No loss of life Minimal off-site effect	A) >1000 B) > 500 C) > 50	> 40 ft < 40 ft > 5 ft	100 yr - 0.5 PMF 100 yr 100 yr

		D) < 50	< 20 ft	50 yr - 100 yr
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*Size and hazard potential classifications shall be proposed and justified by the operator and shall be subject to approval by the director. Present and projected development in the inundation zone downstream from the structure shall be used in determining the classification.

**The factor determining the largest size classification shall govern.

***The establishment of rigid design flood criteria or standards is not intended. Safety must be evaluated in the light of peculiarities and local conditions for each impounding structure and in recognition of the many factors involved, some of which may not be precisely known. Such can only be done by competent, experienced engineering judgment, which the values in the table are intended to add to, not replace.

2. Impounding structures shall be constructed, operated, and maintained such that they perform in accordance with their design and purpose throughout their life.

a. Impoundments shall be designed and constructed by or under the direction of a qualified registered professional engineer experienced in the design and construction of impoundments.

b. The designs shall meet the requirements of this section and use current prudent engineering practices.

c. The plans and specifications for an impoundment shall consist of a detailed engineering design report that includes engineering drawings and specifications, with the following as a minimum:

(1) The name of the mine; the name of the owner; classification of the impounding structure as set forth in this regulation; designated access to the impoundment and the location with respect to highways, roads, streams and existing impounding structures and impoundments that would affect or be affected by the proposed impounding structure.

(2) Cross sections, profiles, logs of test borings, laboratory and in situ test data, drawings of principal and emergency spillways and other additional drawings in sufficient detail to indicate clearly the extent and complexity of the work to be performed.

(3) The technical provisions as may be required to describe the methods of the construction and construction quality control for the project.

(4) Special provisions as may be required to describe technical provisions needed to ensure that the impounding structure is constructed according to the approved plans and specifications.

- d. Components of the impounding structure, the impoundment, the outlet works, drain system and appurtenances shall be durable in keeping with the design and planned life of the impounding structure.
 - e. All new impounding structures regardless of their hazard potential classification, shall include a device to permit draining of the impoundment within a reasonable period of time as determined by the owner's professional engineer, subject to approval by the director.
 - f. Impoundments meeting the size requirements and hazard potential of Class I, Class II and Class III shall have a minimum static safety factor of 1.5 for a normal pool with steady seepage saturation conditions and a seismic safety factor of 1.2.
 - g. Impoundments shall be inspected and maintained to ensure that all structures function to design specifications.
 - h. Impoundments shall be constructed, maintained and inspected to ensure protection of adjacent properties and preservation of public safety and shall meet proper design and engineering standards under Chapter 18.1 (§ 45.1-225.1 et seq.) of Title 45.1 of the Code of Virginia. Impoundments shall be inspected at least daily by a qualified person, designated by the licensed operator, who can provide prompt notice of any potentially hazardous or emergency situation as required under § 45.1-225.2 of the Code of Virginia. Records of the inspections shall be kept and certified by the operator or his agent.
3. Impoundments shall be closed and abandoned in a manner that ensures continued stability and compatibility with the post-mining land use.
4. The following are acceptable as design procedures and references:
- a. The design procedures, manuals and criteria used by the United States Army Corps of Engineers:
 - b. The design procedures, manuals and criteria used by the United States Department of Agriculture, Natural Resources Conservation Service:
 - c. The design procedures, manuals and criteria used by the United States Department of Interior, Bureau of Reclamation:
 - d. The design procedures, manuals and criteria used by the United States Department of Commerce, National Weather Service: or
 - e. Other design procedures, manuals and criteria that are accepted as current, sound

engineering practices, as approved by the director prior to the design of the impounding structure.

B. Impoundments that do not meet or exceed the size criteria of subsection A of this section shall meet the following criteria:

1. Be designed and constructed using current, prudent engineering practice to safely perform the intended function.
2. Be constructed with slopes no steeper than two-horizontal-to-one-vertical in predominantly clay soils or three-horizontal-to-one-vertical in predominantly sandy soils.
3. Safely pass the runoff from a 50-year storm event for temporary (life of mine) structures and a 100-year storm event for permanent (to remain after mining is completed) structures.
4. Be closed and abandoned to ensure continued stability and compatibility with the post-mining use.
5. Be inspected and maintained to ensure proper functioning.
6. Provide adequate protection for adjacent property owners and ensure public safety.

C. Impoundments with impounding capability created solely by excavation shall comply with the following criteria:

1. Be designed and constructed using prudent engineering practice to safely perform the intended function.
2. Be constructed with slopes no steeper than two-horizontal-to-one-vertical in predominantly clay soils or three-horizontal-to-one-vertical in predominantly sandy soils.
3. Be designed and constructed with outlet facilities capable of:
 - a. Protecting public safety;
 - b. Maintaining water levels to meet the intended use; and
 - c. Being compatible with regional hydrologic practices.
4. Be closed and abandoned to ensure continued stability and compatibility with the post-mining use.
5. Be inspected and maintained to ensure proper functioning.
6. Provide adequate protection for adjacent property owners and ensure public safety.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-510. Alternative methods of stabilization.

Riprap shall be used for the control of erosion on those areas where it is impractical to establish vegetation or other means of erosion control or in any areas where rock riprap is an appropriate means of reclamation. Placing of rock riprap shall be in accordance with drainage standards and the approved mineral mining plan. Other methods of stabilization shall include gabions, concrete, and shotcrete.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-520. Revegetation.

Disturbed land shall be stabilized as quickly as possible after it has been disturbed with a permanent protective vegetative cover. The Mineral Mine Operator's Manual provides guidance in the revegetation of surface mined areas. Exposed areas subject to erosion on an active mining site shall be protected by a vegetative cover or by other approved methods. Simultaneous revegetation shall be incorporated into the mineral mining plan. Reclamation shall be completed on areas where mining has ceased.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-530. Process in revegetation.

A. Slopes shall be graded in keeping with good conservation practices acceptable to the division. Slopes shall be provided with proper structures such as terraces, berms, and waterways, to accommodate surface water where necessary and to minimize erosion due to surface run-off. Slopes shall be stabilized, protected with a permanent vegetative or riprap covering and not be in an eroded state at the time reclamation is complete.

B. Crusted and hard soil surfaces shall be scarified prior to revegetation. Steep graded slopes shall be

tracked (running a cleated crawler tractor or similar equipment up and down the slope).

C. Application of lime and fertilizer shall be performed based on soil tests and the revegetation requirements in the reclamation plan.

D. Vegetation shall be planted or seeded and mulched according to the mixtures and practices included in the approved reclamation plan. Mulch shall be applied at the rate of 2,000 pounds per acre for straw or hay, and 1,500 pounds per acre for wood cellulose mulch.

E. The seed used must meet the purity and germination requirements of the Virginia Department of Agriculture and Consumer Services. The division may, at its discretion, take samples for laboratory testing. Noncritical vegetated areas shall achieve adequate cover so that no areas larger than one-half acre shall exist with less than 75% cover after two growing seasons. Seeded portions of critical areas shall have adequate vegetative cover so the area is completely stabilized.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-540. Trees and shrubs.

Trees and shrubs shall be planted according to the specific post-mining land use, regional adaptability, and planting requirements included in the approved reclamation plan. Tree and shrub planting for ground cover shall be combined with well established grass species. For forest and wildlife post-mining land uses, at least 400 healthy plants per acre shall be established after two growing seasons.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-550. Intensive agricultural use.

If the post-mining use is to be intensive agriculture, the planting and harvesting of a normal crop yield is required. A normal yield for a particular crop is equal to the five-year average for the county. The use of grass, water bars, or diversion strips and natural vegetative drainage control may be required in the initial planting year as specified by the director.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

Part V

Orders

4VAC25-31-560. Informal review.

Orders of the director may be reviewed through informal processes in accordance with § 2.2-4019 of the Code of Virginia.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003.

4VAC25-31-570. Formal review.

Orders of the director, which are final agency actions for which no further informal resolution is available, shall be appropriately identified and may be appealed in accordance with § 45.1-194 of the Code of Virginia.

Statutory Authority

§§ 45.1-161.3 and 45.1-180.3 of the Code of Virginia.

Historical Notes

Derived from Virginia Register Volume 19, Issue 24, eff. September 11, 2003; amended, Virginia Register Volume 28, Issue 21, eff. July 18, 2012.

FORMS (4VAC25-31)

Permit/License Application, DMM-101 (rev. 2/06).

Notice of Application to Mine, DMM-103 (rev. 2/06).

Statement Listing the Names and Addresses of Adjoining Property Owners, DMM-103a (rev. 9/99); included in DMM-103 Notice of Application to Mine.

[Bond Release Inspection, DMM-104d \(rev. 12/09\).](#)

Yearly Progress Report, DMM-105 (rev. 2/06).

Surety Bond, DMM-107 (rev. 4/09).

[Legend, DMM-109 \(rev. 2/11\).](#)

Relinquishment of Mining Permit, DMM-112 (rev. 2/06).

Request for Amendment, DMM-113 (rev. 2/06).

Consolidated Biennial Report of Waivered Counties, Cities, and Towns, DMM-116 (rev. 2/06).

Biennial Waivered Counties, Cities, and Towns, Report of Individual Mining Companies, DMM-117 (rev. 2/06).

Consent for Right of Entry, DMM-120 (rev. 12/99).

Mineral Mining Annual Tonnage Report, DMM-146 (rev. 2/06).

[Mineral Mining Annual Report for Contractors, DMM-146c \(rev. 12/11\).](#)

DMM Application Checklist, DMM-148 (rev. 2/06).

Request for Release of Mine Map, DMM-155 (rev. 2/06).

Notice of Operator Intent, DMM-156 (rev. 2/06).

License Renewal/Transfer Application, DMM-157 (rev. 2/06).

Permit Transfer Acceptance, DMM-161 (rev. 2/06).

Permit Renewal Checklist, DMM-163 (rev. 3/06).

Certification of No Change, DMM-164 (rev. 3/06).

Surety Bond Rider, DMM-167 (rev. 2/06).

General Permit for Sand and Gravel Operations Less Than Ten Acres in Size, DMM-168 (eff. 9/03).

Certificate of Deposit, DMM-169 (eff. 2/06).
